Harmoni Economics: International Journal of Economics and Accounting
Volume. 1 No. 3 August 2024
e-ISSN : 3063-8712, dan p-ISSN : 3063-6205, Hal. 35-46
Available online at: https://economics.ifrel.org/index.php/HarmoniEconomics

Measuring the Effects of Financial and Economic Shocks on Some Macro Variables in Some Developing Countries

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Abstrac *This research attempted to analyze the impact of financial and economic shocks in a number of developing countries that are similar in terms of the size of the economy and the diversity of its economic structure, as well as the similarity in the quality of the exchange systems used to demonstrate the extent of the monetary authorities' ability to target inflation in light of the occurrence of shocks of various types and forms during the research period, in addition to This is an indication of the extent of the diversity of the economy and its connection to those shocks, as the oil sector constitutes a large portion of the gross domestic product of the countries of the research sample, with this being lower for the Emirati economy, and this matter made the Iraqi economy to be more affected by the economic crises and shocks that occurred during the period of the study compared to other economies. Saudi Arabia and the Emirates, where the Saudi economy comes in second place in terms of being affected by these shocks, followed by the Emirati economy, which had the least impact. The research variables (inflation, public revenues, and gross domestic product) were also closely linked to the occurrence of both positive and negative financial and economic shocks. When countries face a positive economic shock, the economic situation in the sample countries improves, and the research variables tend to increase, and vice versa when those countries face a shock. Negative, taking into account the varying rates of impact and response, especially with the UAE economy*.

Keywords: *Shock, Inflation, Gross Domestic Product, Shocks and Macro Variables*

1. INTRODUCTION AND GENERAL FRAMEWORK OF THE RESEARCH

The developed and developing countries of the world alike have suffered from many crises and shocks that have prompted many economists and specialists to pay attention to studying them and identifying the reasons for their occurrence and the resulting effects. In our developing world, it has been most affected by the economic shocks and financial crises that occur in The global economy is moving quickly and with great impact to developing countries, casting a shadow over it, as these countries are affected differently and differently, and this depends primarily on their economic structure and the extent of their development and progress.

The countries in the research sample (Iraq, the Emirates, and Saudi Arabia) suffered from the backwardness of their economic structures and the weak flexibility of their production system, but these countries sought to diversify their economic structures in an attempt to reduce the impact of the shocks they are exposed to, as these countries depend heavily on the oil sector, which is linked to the global oil market. Which is characterized by instability and frequent fluctuations. In light of this, the UAE has succeeded greatly in diversifying its economy and thus succeeded in reducing its vulnerability to economic and financial shocks, while Iraq and Saudi Arabia remained linked to oil rentierism, which resulted in their connection to changes and fluctuations

Received: July 17,2024; Received: July 30 ,2024; Accepted August 27, 2024; Published ; August 30,2024

in the oil market and their impact on overall economic activity. Its growth rates and overall variables. Based on this, the economic and financial shocks that occurred during the research period had a clear impact on the research variables through their impact on the financial positions of the research sample and then on its variables, and this returns the rent of the economy towards the oil sector.

2. FINANCIAL AND ECONOMIC SHOCKS

Any situation that occurs unexpectedly is known as a shock, meaning the occurrence of a severe and sudden change in some economic and financial variables that will have a certain impact on economic activity in the country (Robert, 2010:123). This shock may be either positive or negative, the former being reflected in an improvement in the level of activity. The second reduces or undermines economic activity, causing a state of stagnation in it (Najeeb, 2010: 310). The source of these shocks may be external or internal, and their effects vary depending on the type of economy, its economic structure, and its level of development (Al-Obaidi, 2016: 25). The shock is considered It is the main reason for the occurrence of the crisis, and the results of the shock can be controlled and its effects reduced if there is an expectation for it and then take preventive measures that can mitigate the impact of these shocks and provide an opportunity to take quick measures to absorb the effects of the shock and mitigate its severity. In most cases, it does not require dealing with Shock is nothing but absorbing and absorbing the force of the shock in the beginning and then arriving at the real reasons that led to this shock (Dirar, 2018: 487).

The economies of developing and developed countries are exposed to a dissimilar set of shocks, which are different in origin and cause. As a result of the developments that occurred in the global economy and the expansion of its economic interconnections. It led to the direct effects of external shocks on the local economy being reflected primarily in its main variables, and then reflected in variables and effects through which it is difficult to distinguish the type of shock. Especially in shocks of a negative nature that low-income countries suffer from (Kazim 2016: 19). In addition, some positive shocks may generate negative effects on the economy in the future, as they are the result of some internal variables, such as public spending, for example. After the positive shock disappears, there will be negative effects on the local economy as a result of mishandling the positive shock. As if there is an increase in unproductive expenditures that leave structural imbalances in the economy after the positive effects disappear. This happens when increasing expenditures become necessary to increase revenues, especially in oil-producing countries whose economies are not developed. This is one of the reasons leading to a deficit in the economies of those countries, which are affected by fluctuations in oil prices. On the other hand, global interest rates have a share in these shocks, when their prices decline in global centers and attention turns to countries whose interest rates are higher, and whose exchange systems are not affected because they are fixed, not floating. When prices in financial centers rise again, an unfavorable shock may occur, resulting in a migration of capital in a reverse direction, and thus these countries fall under the framework of indebtedness as a result of stabilizing the exchange rates of their currencies in order to maintain the status of their economy globally (Bandar, 2018: 18). Among the most important shocks to which the global economy has been exposed are oil shocks, whether with a decline in oil prices or a rise in them, as well as financial crises that cast a shadow on macroeconomic variables, such as the global financial crisis of 2008 and others.

3. MACROECONOMIC VARIABLES

In this research, we will focus on a number of macro variables directly related to financial and economic shocks in developing countries, which can be stated as follows:

1. Inflation: Inflation explains the gradual and continuous rise in the general level of prices in the economy, meaning a continuous spiral rise in prices (Musarat et a;., 2021: 408).
2. Public revenues: The group of financial amounts that the state obtains through its sovereign and non-sovereign sources during a specific period, usually a year (Ojo, 2020: 3)
3. Gross Domestic Product: which represents the market value of all goods and services produced within the economy during a specific period, usually a year (Chang et al., 2023: 2)
4. Analysis of the impact of financial and economic shocks on the inflation rate of the developing countries in the research sample.

As Table (1) shows, the level of inflation in the nation saw two cases following the regime transition in Iraq, the economy saw the disruption of many of its economic facilities and a steady rise in the price level in the early years of the shift: the first was an increase in rates between 2004 and 2007; the second was a decline to single digit rates, with the exception of 2008, which was represented by the period between 2008 and 2020. During this time, Iraq experienced economic openness to the outside world following the lifting of the economic blockade, a decline in security, and a change in the structure of domestic demand. Imports increased in tandem with the improvement in living conditions for Iraqi families, the rise in the marginal propensity for consumer spending, and the stoppage of production of many local industrial and agricultural products. This led to an increase in the food index, which in turn caused the consumer price index to rise, with the rate rising on its basis. The highest level of inflation during this time period was observed in 2006, when annual inflation reached 53.1%. While maintaining price stability was the Central Bank's primary purpose, as indicated by Law No. 56 of 2004 enacted by the Coalition Provisional Authority, the Central Bank's authority was restricted from 2004 to 2007.

In contrast, we observe a decrease in the annual inflation rate in the second case, which peaked at 12.7% in 2008. This was attributed to the Central Bank's policy, which helped to strengthen the Iraqi dinar's exchange rate against the US dollar. The inflation rate decline persisted until the end of the study period, reaching (0.6%) in 2020. The success of monetary policy in aiming for the stability of the overall level of prices—one of its main objectives—through the currency sale window is shown in the decline in yearly inflation rates.

It is also noted from Table (1) that the inflation rate in the Kingdom of Saudi Arabia is gradually increasing to reach about (9.8%) in 2008 after it was (1.3%) in 2005 due to the rise in the general level of prices accompanying increases in public revenues reflected in the increase Public spending, after which it witnessed a wave of slight fluctuation and at a globally acceptable level, reaching at the end of the study period about (2.9%) in 2020. This is an indication of the success of the monetary policy followed by the Saudi Arabian Monetary Agency in maintaining the stability of inflation rates within global limits. Moderate. It is also noted that the UAE's monetary policy has succeeded in achieving financial and economic stability and then controlling inflation rates by targeting it through the stability of the dirham exchange rate, as the exchange rate followed is a fixed system at (3.672) dirhams per dollar, which contributed to reducing Inflation rates increased from about (9.8%) in 2008 to about (1.1%) in 2020, which contributes to stimulating economic growth in the Emirates as it provided a suitable environment for investment of all kinds, which reflected positively on economic growth there.

Table (1) Evolution of inflation rates in Iraq, Saudi Arabia, and the UAE for the period 2004-2020 (%)

year	Iraq	UAE	Saudi Arabia
2004	-	-	-
2005	36.9	37,1	6,1
2006	53.1	53,1	9,3
2007	31	30,9	11.1
2008	12.6	12,7	12.3
2009	8.5	8,3	1.6
2010	2.4	2,5	0.9
2011	5.6	5,6	0.9
2012	6.0	6,1	0.7
2013	2.4	1,9	1.1
2014	0.8	2,2	1.2
2015	2.4	1,4	4.1
2016	0.1	0,5	1.6
2017	0.2	0,2	2
2018	0.4	0,4	3,1
2019	0.9	0.2	3.5
2020	2.2	0.6	2.9

Source: Prepared by the researcher based on the data of the monetary institutions of the countries of the research sample for the years 2020-2004

We have explained in detail the development of the inflation rate in the developing countries, the study sample, which witnessed a series of fluctuations, as it began to increase little by little and then trended toward a decline compared to the previous period. This can be attributed to the development of monetary policies followed in those countries and the type of exchange systems followed and learning from lessons. And international experiences in this field, especially rentier countries, as these countries depend very heavily on the oil sector and therefore it is the source that contributes to these countries obtaining hard currency and then the possibility of its impact on the exchange rate and the general level of prices, which makes these countries exposed to severe and related fluctuations. Basically, the outside world, represented by the financial and economic shocks that occur in the global economy, as well as the extent of growth or slowdown in growth of the global economy, as this is directly reflected in oil prices in the oil market and then reflected in the oil revenues of those countries, which will naturally affect the positions. The financial and purchasing capabilities of those countries, as it is clear that the increase in oil prices that occurred at the beginning of the second millennium led to an increase in the spending capabilities of those countries, and then a noticeable increase in price levels as a result of the weak flexibility of their production systems, as it is clear from Table (1) that all countries witnessed an increasing increase in Inflation rates, even with the beginning of the decline, showed that they were at a high rate, ranging from 12.3 to 12.7% in 2008, but as the monetary institutions in those countries sought to target inflation through their quantitative and direct tools, those rates in those countries began to gradually decline, and this also helped Including the global financial crisis that struck the global economy in 2009, this matter led to a decline and slowdown in growth for the global economy and a decline in oil prices, which led to a decline in public revenues for those countries and then inflation rates, which witnessed a decline in 2009 and reached (8.5%) (8.3%) (1.6%) in Iraq, the Emirates, and Saudi Arabia, respectively, and with a very slight difference in the extent of the rentier economy for the countries in the research sample, as the Iraqi economy was the most rentier and dependent on oil, as the oil, economic, or financial shocks to which the global economy was exposed led to it being affected very significantly. Inflation rates decreased by 0.8% in 2014. The UAE economy also witnessed a decline in inflation rates after the global financial crisis until 2014, as its monetary policy, in conjunction with the economic crisis, succeeded in reducing inflation rates and reaching 2.2% in 2014. The Kingdom of Saudi Arabia also maintained Moderate inflation rates within the international standard rate during that period, reaching 1.2%, so that these countries continue to control inflation rates, relying on the exchange systems and monetary tools they use to target inflation in light of the economic and financial shocks they are exposed to and which affect their financial positions. Hence, their spending capabilities are reflected in the inflation rates in those economies.

It is clear from the above that inflation rates in those countries depend mainly on two factors: the first is related to the exchange systems in place and their impact on the money supply in the country compared to the flexible production apparatus that the economy possesses, and the second is linked to the spending capabilities of those countries, which is directly related to the external dependency on the oil market. Which affects it in terms of prices. Which has a two-way effect: the first lies in the increase in inflation rates as a result of expansionary spending policies associated with high oil prices, and the second lies in the decrease in inflation rates as a result of economic stagnation or contraction that occurs as a result of lower spending rates resulting from a shock or financial crisis in the economy resulting from For a drop in oil prices or any other reason that negatively affects public revenues.

5. ANALYSIS OF THE IMPACT OF FINANCIAL AND ECONOMIC SHOCKS ON THE PUBLIC REVENUES OF THE DEVELOPING COUNTRIES IN THE RESEARCH SAMPLE.

One component of the general budget that allows the government to define how it will carry out its objectives and programs for economic and development is public revenues. We have demonstrated the extent to which the economy depends on oil income as a key source of funding for public spending, as is evident from the examination of the components of public revenues. Rentier countries are more vulnerable to economic swings when there is a negative shift in oil income because governmental finances are derived from oil earnings. This is the situation for all oil-producing countries.

Table (2) makes it evident that public revenues in the research sample countries have increased significantly for every year of the study from 2004 to 2020, with the exception of the years when there were global economic crises that had an impact on oil prices globally and decreased Iraqi revenues as a result. The years (2009-2014-2016 and 2019-2020), as public revenues began to rise from approximately (23,967.1) (31,500) and (88,000) million dollars in 2004 in Iraq, the Emirates, and Saudi Arabia, respectively, to continue to increase until they reached approximately (60,976.1). (39,100) and (262,231.7) million dollars in 2008 in Iraq, the Emirates, and Saudi Arabia, respectively, as a result of the rise in oil prices and the increase in exported oil production, but it declined in (2009) to reach (39,721.4) (36,200) and (115,845.3) million dollars in Iraq, the Emirates, and Saudi Arabia. Respectively, due to the global crisis and the decline in oil prices, then they gradually rose again after those economies recovered from that crisis as a result of the stability of the global oil market, achieving public revenues in 2012 of (87,304.3) (44,640) and (305,284.8) million dollars in Iraq. And the Emirates and Saudi Arabia, respectively, but these revenues decreased in the following years and continued to decline significantly due to the decline in oil prices and the slowdown in the growth of the global economy, as public revenues amounted to (42662.1) and (116656.3) million dollars in 2016 in Iraq and Saudi Arabia, respectively, as the Emirates were not affected by those. The crisis is a result of the success of the state's policy in diversifying sources of income, as the oil contribution decreased to 30% of the gross domestic product, which enabled it to continue to increase the volume of its revenues until the end of the period to reach (81,700) million dollars in 2020, while the opposite happened in Iraq and Saudi Arabia, which were affected by the crisis. The Corona pandemic, as a result of which public revenues decreased to reach (77222.1) and (174594.9) million dollars in 2020, respectively.

Thus, it becomes clear to us the extent of the impact of economic and financial shocks on the variable public revenues of the developing countries in the research sample, especially Iraq and Saudi Arabia, as they were most affected by these crises. With the occurrence of the crisis, public revenues decrease, and with it the economy recovers from it, public revenues begin to rise little by little, as was the case with the UAE economy and the state's policy in it. Which was followed in order to diversify sources of income, which has an important role in reducing the severity of the economy's vulnerability to global crises and shocks, especially related to the oil market, as the economy was not affected by the following 2014 and the Corona hunger crisis and the global recession that accompanied it, and this is the result of the economy's dependence on service sectors more than Real productivity

Table (2) Evolution Public revenues in Iraq, Saudi Arabia, and the UAE for the period 2004-2020 (Million dollars)

year	Iraq	Saudi Arabia	UAE
2004	23967.12	31500	88000
2005	30868.18	34700	134544
2006	37704.27	35600	185192
2007	39520.33	38400	149916.3
2008	60976.09	39100	262231.7
2009	39721.45	36200	115845.3
2010	49319.88	41200	178737.3
2011	74456.27	43950	275829.3
2012	87304.33	44640	305284.8
2013	83782.08	44900	276012.3
2014	79966.22	44600	243558.9
2015	51863.84	43400	119050.4
2016	42662.13	42900	116656.3

2017	58099.22	49500	116240
2018	85337	52600	161973.3
2019	83801.86	71700	193271.5
2020	77222.08	81700	174594.9

Source: Prepared by the researcher based on the data of the monetary institutions of the countries of the research sample for the years 2020-2004

6. ANALYSIS OF THE IMPACT OF FINANCIAL AND ECONOMIC SHOCKS ON THE GROSS DOMESTIC PRODUCT OF THE DEVELOPING COUNTRIES IN THE RESEARCH SAMPLE.

Oil represents the main sector in most of the economies of the Gulf Cooperation Council countries, and these countries have realized that relying on this sector represents a great danger to the national economy and may permanently expose it to fluctuations as a result of changes in the oil markets, such as declining demand and falling prices, as not everyone has been able to From Iraq and Saudi Arabia to diversify the sources of income in the economy, especially Iraq, which continues to suffer from oil rentierism, distortion in the economic structure, and the dependence of the acceleration and growth of the economy on the private sector. On the contrary, the UAE has made great efforts during the last period to diversify its sources of income, including reducing dependence. It depends largely on oil, and it now enjoys the largest diversified economy in the Gulf Cooperation Council region. The non-oil sector currently accounts for about 70% of the national GDP.

Table (3) Evolution GDP in Iraq, Saudi Arabia, and the UAE for the period 2004-2020 (Million dollars)

year	Iraq	UAE	Saudi Arabia
2004	40950.28	218610.4	68997.89
2005	56564.31	227738.4	87589.23
2006	73529.2	250136.2	100506.7
2007	85735.24	258092.6	110923.9
2008	120789.3	266321.5	138612.5
2009	100494.8	253542.2	114426.1
2010	124665.1	256784.7	140855.3
2011	167174.7	267765.7	178996.9
2012	195558.1	279455	196259.9
2013	210451.9	295313.4	199105.9
2014	204871.3	311089.9	201693.4
2015	149754.6	322779.3	174472

2016	151480.1	379046.3	171982.8
2017	170512.1	386348.8	183623
2018	206860.7	393051.8	208662.3
2019	213757.6	442588.6	216126.1
2020	152903.3	425476.8	214861.7

Source: Prepared by the researcher based on the data of the monetary institutions of the countries of the research sample for the years 2020-2004

It is clear from Table (3) that the gross domestic product in the countries of the research sample has witnessed a noticeable increase during the research period, with the exception of some years in which the global economy witnessed some shocks and crises, as the gross domestic product began to rise from approximately (40950.28) (218610.4) and (68997.89).) million dollars in 2004 in Iraq, the Emirates, and Saudi Arabia, respectively, and it continued to increase until it reached approximately (120,789.3) (266,321.5) and (138,612.5) million dollars in 2008 in Iraq, the Emirates, and Saudi Arabia, respectively, as a result of the stability of the global economy, the rise in oil prices, and the increase in the countries' oil output. But that did not last long, as the gross domestic product declined in the year (2009) to reach (100494.8) 253542.2) and (114426.1) million dollars in Iraq, the Emirates, and Saudi Arabia, respectively, due to the global crisis and the decline in oil prices, after which the GDP witnessed a gradual increase. Once again, after these economies recovered from that crisis as a result of the stability of the global oil market, the year 2013 achieved (210,451.9) (295,313.4) and (199,105.9) million dollars in Iraq, the Emirates, and Saudi Arabia, respectively, but this increase in output did not continue, as it decreased due to the crisis of 2013. 2014, represented by a decline in oil prices and a slowdown in the growth of the global economy, reaching (149,754.6) and (174,472) million dollars in 2015 in Iraq and Saudi Arabia, respectively, as the Iraqi economy was most affected by this crisis as it coincided with the deterioration of the security situation in the country, while the UAE economy was not affected. This crisis is a result of the success of the state's policy in diversifying sources of income, as the oil contribution decreased to %30 of the gross domestic product, which enabled it to continue to increase the size of its gross domestic product to reach (442,588.5) million dollars in 2019. The Corona pandemic crisis also cast a negative shadow on the size of The gross domestic product in all countries of the research sample decreased as a result.

7. CONCLUSION

There is a very large convergence between the economies of the countries in the research sample in terms of the variables that were studied, as all of these countries follow a fixed exchange rate system, and the oil sector constitutes a large portion of their total output, with this being lower for the Emirati economy. The Iraqi economy was most affected by the crises. The economic shocks that occurred during the study period compared to the Saudi and Emirati economies, where the Saudi economy comes in second place in terms of being affected by those shocks, leading to the Emirati economy, which was the least influential, as these shocks greatly affected the financial capacity of the economies and then their impact on inflation rates in a significant way. Positive when a negative crisis occurs, while the opposite happens when a positive shock occurs. The research also showed the extent to which public revenues in the Iraqi and Saudi economies are very closely linked to the oil market and the shocks they are exposed to, as these revenues increase with positive shocks in oil prices and decrease with their decrease, while the UAE economy was less linked to the oil market as a result of the diversification of its sources of national income, and this applies to the variable gross domestic product.

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